

REMARKS

Claims 1-20 continue to be the pending claims in the application. Claims 2-6, 8-12, 14 and 15 were withdrawn in response to the Office Communication dated August 22, 2005. Reconsideration of the application in light of the remarks which follow is respectfully requested. The Applicants also respectfully request that the Examiner reconsider the withdrawing of claim 8 from consideration. Claim 8 depends on claim 1.

Claim Rejections - 35 U.S.C. § 103

Claims 1, 7, 13 and 16-20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Horner Jr. et al. (U.S. Patent No. 6,365,533) in view of Lynn et al. (U.S. Patent No. 6,093,481) and Morgan et al. (U.S. Patent No. 3,062,682). The Examiner contends that Horner Jr. et al. disclose a foamed facer for an insulation board. The Examiner further contends that the facer of Horner Jr. et al. comprises a fiber mat containing a binder for the fibers, and coated with a prefoamed composition which contains a thixotropic polymer latex, a foam sustaining surfactant, and a filler. The Examiner concedes that Horner Jr. et al. do not teach a metallic layer that is adhered to the foamed facer, or that the foamed facer comprises prefabricated microcells, but alleges that Lynn et al. provide the teaching of the metallic layer and that Morgan et al. provide the teaching of the prefabricated microcells.

The Claimed Invention

Claim 1 relates to a composite material comprising a first layer which comprises a prefabricated microcells component, a surfactant component, surfactant-generated microcells, a filler component and a binder component and a second layer comprising a metallic component adhered to the first layer. Claims 7, 13 and 16-20 are dependent from Claim 1.

The Prior Art

Horner Jr. et al. disclose a facer member for use in the construction industry comprising a preformed fiber mat substrate coated with a prefoamed, self-sustaining foam mixture. The facer member disclosed by Horner Jr. et al. can be used to manufacture insulation boards comprising a pair of facer members laminated to the surfaces of the foam core of a traditional insulation board. *See* Horner Jr. et al. col. 5, lines 34-39. The facer members “eliminate the need for heat retaining members at the top and bottom of the stack and significantly reduce the prior problem of the board’s susceptibility to cold temperature delamination.” Col. 4, line 67 to col. 5, lines 1-4 (emphasis added). Horner Jr. et al. teach that the facer member insulation boards have tolerance to weathering and that they are superior and have broader application than other insulation boards, such as being useful as non-foil, non-glare sheathings. *See* Horner Jr. et al. col. 7, lines 9-12. This is consistent with Horner Jr. et al.’s description of the prior art in which foil was used which Horner Jr. et al. describe as “leading to disruption of cell structure, delamination and warping” and as costly and thus not desirable. *See* Horner Jr. et al. col 2, lines 20-24. Horner Jr. et al. do teach that other facers may be used in addition to the facer of the asserted invention. However, when they are used, the claimed inventive facer member is placed on one side of the foam core of a traditional insulation board, and the other facer (which may be aluminum foil) is placed on the other side of the foam core. Col. 5, line 62 to col. 6., lines 3-13.

Lynn et al. disclose a facing sheet for use in fabricating building materials. The facing sheet comprises a polymeric layer or composite thereof. Lynn et al. also teach that the facing sheet is adhered to at least one major surface of a rigid foam insulation board. Col. 2, lines 16-18. Lynn et al. facing composites comprise combinations of the outer polymeric layer with one or more of conventional facing materials including fibrous material, metals, such as sheets of aluminum or steel, and sheets or films of plastics. *See* Lynn et al. col. 2, lines 32-37.

Lynn et al. further disclose that the metallic layer may be employed in the facing composites as illustrated in FIGS. 2, 3 and 4 where the metal may be layers 17, 18; 23, 24; 28 and 32, respectively.

Morgan et al. disclose a method of producing a composite foam and mineral product by injection or insertion of a liquid foamable material into a fibrous mass. The product is composed of mineral fibers associated with a foamed material. *See* Morgan et al. col. 2, lines 7-10. Morgan et al. further disclose that filler material may be added to the product. Such filler material includes, *inter alia*, resinous microballoons. *See* Morgan et al. col. 13, lines 62-67.

There is No *Prima Facie* Case of Obviousness

The combination of Horner Jr. et al., Lynn et al. and Morgan et al. does not support a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three criteria must be met. First, there must be some suggestion or motivation in the cited references themselves or in the knowledge generally available to one of ordinary skill in the art to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Third, the combined references must teach or suggest all the claimed limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and must not be based on the Applicants' disclosure. *In re Vaeck*, 947 F2d 488, 20 USPQ 2d 1438 (Fed. Cir. 1991); MPEP § 2142.

In this case, there is no suggestion or motivation in any of the cited references to alter Horner Jr. et al. to produce a composite material according to the present claims. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990).

"It is impermissible within the framework of section 103 to pick and choose from

any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.” *In re Hedges*, 783 F.2d 1038, 1041, 228 USPQ 685, 687 (Fed. Cir. 1986).

“A showing of obviousness requires a motivation or suggestion to combine or modify prior art references, coupled with a reasonable expectation of success.” *Boehringer Ingelheim Vetmedica, Inc. v. Schering-Plough Corp.*, 320 F.3d 1339, 1354 (Fed. Cir. 2003). See also *In re Dow Chem Co.*, 837 F.2d 469, 473 (Fed. Cir. 1988) (“Both the suggestion and the expectation of success must be founded in the prior art, not in the applicant’s disclosure.”). Because virtually all inventions are combinations of old elements, “the suggestion to combine requirement stands as a critical safeguard against hindsight analysis”. *Yamanouchi Pharm. Co. v. Danbury Pharmacal, Inc.*, 231 F.3d 1339, 1343 (Fed. Cir. 2000). See also *Grain Processing Corp. V. Am. Maize-Prod. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988) (“the question is whether there is something in the prior art as a whole to suggest the desirability, and thus, the obviousness of making the combination”); *Gillette v. S.C. Johnson & Son, Inc.*, 919 F.3d 720, 724 (Fed. Cir. 1990) (“Focusing on the obviousness of substitutions and differences, instead of on the invention as a whole, is a legally improper way to simplify the often difficult determination of obviousness”).

Notably, that an invention may have been “obvious to try” does not render it “obvious” within the meaning of 35 U.S.C. §103. See *Gillette*, 919 F.2d at 725 (the Federal Circuit has “consistently held that ‘obvious to try’ is not to be equated with obviousness” under 35 U.S.C. §103); *Hybritech Inc. V. Monoclonal Antibodies, Inc.*, 802 F.2d 1367, 1380 (Fed. Cir. 1986) (finding error to extent district court relied on prior references to establish something was “obvious to try”); *Dow Chem.*, 837 F.2d at 473 (rejecting “obvious to experiment” standard because “selective hindsight is no more applicable to the design of experiments than it is to the combination of prior art teachings”). In the case of *In re Fritch*, 972 F.2d 1260, 1266 (1992) the

Federal Circuit forbid “hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention”. *See also Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1050-51 (Fed. Cir. 1988) (“The invention must be viewed not with the blueprint drawn by the inventor, but in the state of the art that existed at the time[.]”; *In re Wesslau*, 353 F.2d 238, 241 (C.C.P.A. 1965) (“it is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of which such reference fairly suggests to one of ordinary skill in the art.”).

Applicants’ claimed invention is not suggested by the cited prior art. Horner Jr. et al. teach facer members which are used to manufacture an insulation board. The facer members include a preformed mat coated with a prefoamed, self-sustaining foam mixture. As noted by the Examiner, the self-sustaining foam mixture may comprise a thixotropic polymer latex, a surfactant and a filler. The facer members can be laminated to both sides of a foam core of a traditional insulation board to produce a composite insulation board. There is no teaching in Horner Jr. et al. of utilizing prefabricated microcells or of a metallic component adhered to the facer member.

Lynn et al. teach facing sheets which are applied to the foam core of a traditional insulation board. The facing sheets comprise an outer polymeric layer and may further comprise, a fibrous mid-layer, and/or a metallic layer. The facing sheet is adhered to at least one major surface of a rigid foam insulation board.

Morgan et al. teach a composite foam and mineral product composed of mineral fibers associated with a foamed material. A filler material, such as resinous microballoons, may be added to the product.

The presently claimed composite material comprises at least a first and a second layer, wherein the second layer is a metallic component and wherein the second layer is adhered

to the first layer. The first layer of the present invention comprises a prefabricated microcells component, a surfactant component, surfactant-generated microcells, a filler component and a binder component. The Examiner has compared the facing member of Horner et al. to the first layer of the present invention, acknowledging the absence of pre-fabricated microcells and a metallic component, but concluding that the combination fo Horner et al., Lynn et al. and Morgan renders obvious the present invention.

The Applicants respectfully disagree that a skilled artisan would be motivated by either Horner et al., Lynn et al. or Morgan to make the present invention. Horner et al. teach facer members that eliminate the need for heat retaining members at the top and bottom, thereby reducing a traditional insulation board's susceptibility to cold temperature delamination. *See col. 5, lines 1-4.* Thus, it is not surprising that, while Horner et al. contemplate the use of aluminum foil facers, they teach that when two facer members may be used, the aluminum foil may be placed on one side of the foam core of a traditional insulation board and the asserted inventive facer member may be placed on the other side of the insulation board.

Lynn et al. note that a disadvantage associated with the use of aluminum foil "stems from its fragility, which can result, e.g. in foil breakage during foam board manufacture." Col. 1, lines 33-35. They assert that their "polymeric layer" facing sheet is "characterized by exceptional toughness and resistance to puncturing" (col. 2, lines 22-23) such that, although it "is sufficiently flexible so that it can be readily wound on [a] roll...it still possesses marked toughness making it especially resistant to damage during foam lamination production and subsequent utilization in end use applications in the construction market." (Col. 2, lines 53-57).

Horner Jr. et al. actually teach away from the combination with Lynn et al. and from the present invention. Horner Jr. et al. teach that the asserted inventive facer members eliminate the need for heat retaining members at the top and bottom of insulation boards (i.e. aluminum foil at the top and/or bottom) and that aluminum facers are not desired because they

cause disruption, delamination and warping and because they are costly. *See* Horner Jr. et al. col. 2, lines 20-24. The use of aluminum facers as taught by Horner Jr. et al. is also undesirable because such facers hold and reflect heat and often cause warping and deterioration of wood overlayment. *See* Horner Jr. et al. col. 5, lines 50-55. A prior art reference must be considered in its entirety, *i.e.*, as a whole, including portions that would lead away from the claimed invention. MPEP § 2141.02 (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984))(emphasis in original).

Thus, the skilled artisan, looking to Horner et al. and Lynn et al., would not be motivated to adhere an aluminum foil to the asserted inventive facer member of Horner et al. At best, the combination of Horner et al. and Lynn et al. would suggest to a skilled artisan to make an insulation board comprising a traditional foam core having the facer member of Horner Jr. et al. adhered to one side of the foam core and perhaps the facer of Lynn et al. adhered to the other side of the foam core or simply aluminum foil adhered to the other side of the core.

Morgan et al. do not provide the teaching necessary to make up for the deficiencies of Horner Jr. et al. and Lynn et al. The three cited patents do not suggest the combination of disparate elements that would be required to arrive at Applicants' claimed invention. Moreover, nothing in those references indicates that there would be a reasonable expectation that such a combination would be successful. Indeed, Horner Jr. et al. indicate that it would not be.

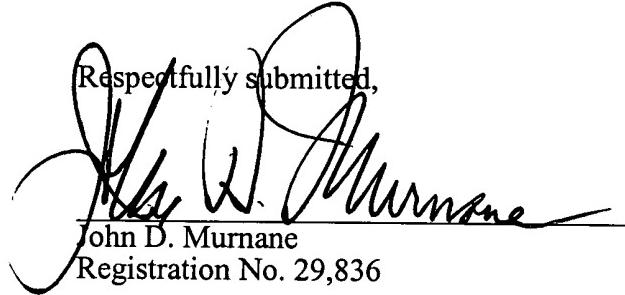
Accordingly, Applicants respectfully request withdrawal of the rejection of the claims under 35 U.S.C. §103(a) as obvious over Horner Jr. et al. in view of Lynn et al. and Morgan et al.

Attorney Docket No. 03398.000006

Conclusion

In view of the foregoing remarks, Applicants submit that the present invention is now in condition for allowance. Accordingly, favorable reconsideration of the application is earnestly solicited. Please send any further correspondence relating to this application to the undersigned attorneys at the address below.

Applicants' undersigned attorneys may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,

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